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ABSTRACT

The first in a three-volume set, this book focuses on young children between the ages of four and eight as they construct a deeper understanding of numbers and the operations of addition and subtraction. Rather than offer unrelated activities, this book provides a concerted, unified description of development with a focus on big ideas, progressive strategies, and emerging models. Drawing from the work of the Dutch mathematician Hans Freudenthal, it defines mathematics as "mathematizing"--the activity of structuring, modeling, and interpreting one's "lived world" mathematically. It also describes teachers who use rich problematic situations to promote inquiry, problem solving, and construction, and children who raise and pursue their own mathematical ideas. Chapters include: (1) "'Mathematics' or 'Mathematizing?'"; (2) "The Landscape of Learning"; (3) "Number Sense on the Horizon"; (4) "Place Value on the Horizon"; (5) "Developing Mathematical Models"; (6) "Addition and Subtraction Facts on the Horizon"; (7) "Algorithms versus Number Sense"; (8) "Developing Efficient Computation with Minilessons"; (9) "Assessment"; and (10) "Teachers as Mathematicians." (Contains 73 references.) (ASK)

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